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The Micro-Organisms Causing Sympathetic Ophthalmia

In an earlier paper dealing with the nature and the way of migration of sympathetic ophthalmia, the author attempted to demonstrate the histopathologic picture in the process by which sympathetic ophthalmia breaks out, persists and migrates. In sympathetic ophthalmia Type I the seat of irritation and inflammation is found in the lens, the iris and the ciliary body of the exciting eye, and the specific process has been found to proceed from the eyeball as a migrating perivasculitis of the retina and the optic nerve. Analogous to this is the immigration into the sympathizing eye of a periangiitis, which, once it has entered the eye, progresses as a migrating perivasculitis of the retina, leading to anterior uveitis in the sympathizing eye. In Type II sympathetic ophthalmia appears in the exciting eye and, similarly, in the sympathizing eye as an anterior and a posterior uveitis connected by a continuous specific migrating perivascularitis and perineuritis along the posterior ciliary vessels and nerves and along the vessels within the optic nerve. In a later publication, the picture was completed by the histologic study of the eyes and optic nerve of a patient who had died of a cerebral tumor after having had sympathetic ophthalmia for years. Here the continuous migration of the specific process from the exciting eye via the optic chiasm to the sympathizing eye as a perivascularitis and perineuritis could be demonstrated. Furthermore, this publication reported and contained illustrations of microbiological changes in the human eyeball and optic nerve which in size, form and staining quality were suggestive of the exciting agent of sympathetic ophthalmia. These findings were selectively limited to the histopathologic pathway of sympathetic ophthalmia and were therefore suspected to be of pathogenic character.

In the present report, the author summarizes the experimental demonstration of the microorganism which he believes causes sympathetic ophthalmia. This was done by passage through chicken eyes and by cultivation of the pathogens on the chorioallantois of chick embryos.

The author's conclusions concerning the histology of human sympathetic ophthalmia, which are based on a review of the histologic preparations in 54 cases of sympathetic ophthalmia published in previous papers, and on his more recent experiments, are as follows:

The exciting agent of sympathetic ophthalmia remains stationary as a saprophytic, harmless parasite in the conjunctival sac, in its epithelial cells, in the adventitial cells of the conjunctival and episcleral vessels and in the vessels of the limbal arcade. Furthermore, the parasite remains in the endothelial cells of Tenon's capsule. Only when the microorganism comes in contact with uveal tissue does it become virulent and pathogenic. This can happen whenever the corneoscleral barrier is opened, e.g., by a perforating injury, operation or perforating malignant intraocular tumor, in which event the uveal tissue becomes exposed. Inoculation of the lens with the organism causes sympathetic ophthalmia Type I, with anterior uveitis and migrating periangiitis of the retina and the optic nerve. Invasion of the infective agent into the uveal tract, which has been

exposed, produces sympathetic ophthalmia Type II, with anterior and posterior uveitis and migration of the pathogen as periangiitis and perineuritis along the ciliary nerves and the optic nerve. This opinion is based on the histologic examination of 47 exciting and 7 sympathizing eyeballs and 1 human optic chiasm. Sympathetic ophthalmia after evisceration of the eyeball, after subconjunctival rupture of the globe with intact conjunctiva, and in connection with malignant choroidal tumors can now be better understood.

The experiments reported in this paper showed that the microorganisms causing sympathetic ophthalmia could consistently be grown on the chorioallantois of the chick embryo if the material was derived from human aqueous. The pathogen was also demonstrable by inoculation of chicken eyes. It is suggested, therefore, that use be made of these facts by performing a diagnostic puncture of the anterior chamber of an eye suspected of having sympathetic ophthalmia and immediately inoculating the warm material on the chorioallantois of chick embryos, as described. In view of the general experience with Rickettsia group of organisms, to which the exciting agent of sympathetic ophthalmia seems to be related, not much help can be expected from the sulfonamides and penicillin. One must keep in mind that if penicillin or streptomycin is added to a fixed flora, bacteria are separated from rickettsias, the former being destroyed and the latter allowed to multiply virulently. On the other hand, it would seem worth while to try aureomycin, chloramphenicol, P-aminobenzoic acid and P-aminosalicylic acid. However, the old proved methods keep their validity, viz., early enucleation of the suspected eye, not evisceration of the eyeball, and treatment with methenamine sodium salicylate (cylotropin) and atophanyl (a preparation of cinchophen sodium, sodium salicylate and procaine hydrochloride). (A. M. A. Arch. Ophth., Nov. 1951, E. Schreck, Heidelberg, Germany)

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New Methods of Preserving Skin, Bone and Blood Vessels

With the influx of large numbers of casualties into naval hospitals, the need for suitable tissue grafts increased. Therefore, a research project was established to seek new methods with fewer limitations for preserving skin, bone and blood vessels.

The preliminary findings of the experimental and clinical investigations of the Tissue Bank, Naval Medical School, Bethesda, Maryland, are presented here.

A new technic for preserving bone and blood vessels is being evaluated at the Tissue Bank which may eliminate most of the limitations of former methods of preservation. It consists of freeze-drying the grafts prior to storage on the shelf at room temperature in vacuum-sealed tubes. This means that the grafts are quick frozen at low temperatures (-45° to -70° C. for bone and -185° C. for arteries) and then dehydrated by sublimation under a high vacuum while the tissue is still frozen. The procedure is conducted in a commercial freeze-drying machine. The process, commonly referred to as lyophilization, has been used

for many years to preserve in the dried state such products as plasma, penicillin, streptomycin, vitamins and other labile chemicals.

Theoretically, the process and subsequent storage at room temperature damages these substances less than does prolonged storage in the frozen state. Bone which has been kept in the deep freeze using the generally accepted technic does seem to undergo some undesirable chemical changes on prolonged storage. Speed and Smith have observed gross changes--discoloration, dryness and loss of elasticity--in bone stored for as short a time as 3 months, and most surgeons prefer not to use bone stored for longer than 6 months to 1 year. Deterling has found also that prolonged storage of frozen blood vessels results in changes that impair their function as grafts in dogs. Many freeze-dried products have remained stable during storage of several years in vacuum containers. It is therefore possible that freeze-dried bone will likewise be stable at room temperature for several years.

The advantages of freeze-drying as a method of preserving non-viable tissues such as bone and blood vessels would seem to be as follows:

(1) increased storage time; (2) ease of handling and shipping; (3) theoretically, minimal chemical damage to the tissues during processing and storage.

Bone. Before freeze-dried bone was used in patients, it was compared experimentally in dogs, at the Naval Medical Research Institute, to fresh autogenous bone grafts, frozen homogenous grafts and to a bone defect the size of the graft. These experiments indicated that fresh autogenous and preserved homogenous cortical bone grafts heal in the same manner but at different rates. Fresh autogenous bone heals more rapidly than does preserved homogenous bone, and in the early stages of healing freeze-dried grafts seemed to progress slightly more rapidly than frozen ones.

On the basis of this experimental justification, freeze-dried bone has been grafted in 14 patients to date as a clinical research project. Although early results in these patients are favorable, final evaluation must be reserved for the future.

Arteries. Freeze-dried arteries are currently being investigated in animals, and the early results are very encouraging. (See Medical Newsletter, Vol. 16, No. 11, 15 Dec. 1950). If long-term evaluation of these freeze-dried arterial grafts continues to indicate their superiority over frozen grafts, a clinical trial on patients will be undertaken.

Skin. Recognizing the fact that temperatures in the order of 3°C. markedly slowed cellular metabolism, methods were developed for storing skin in pliofilm or moist saline gauze at icebox temperatures. Satisfactory takes with this banked skin were obtained. However, storage time was limited to 3 weeks, since no provision had been made for nutrients to maintain a slowed metabolism or for a slow but constant loss of water by evaporation.

To overcome these limitations, skin is placed in a nutrient solution consisting of 10 % pooled human plasma and 90 % of buffered, balanced salt solution (Earle's) and refrigerated in an ordinary icebox which is regulated at 3°C.

To date, 75 patients have received grafts of this skin. Autogenous grafts have "taken" permanently after storage for 84 days. Homogenous grafts, which have been stored for as long as 185 days have reacted in a manner similar to the fresh homograft which initially takes but sloughs after a 3 to 5 week period. Homogenous skin from cadavers is largely used as a temporary physiological dressing. In this function, homografts have been shown to diminish infections, pain and frequency of dressing, to lessen cicatrization by limiting granulation tissue formation and to decrease fluid loss. (LCDR G. W. Hyatt, MC, USN, LTJG T. C. Turner, MC, USN, & LTJG C. A. L. Bassett, MC, USN, Tissue Bank, NavMedSchol and NMRI, NNMC, Bethesda, Md.)

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Restricted Sodium Diets

Since knowledge of sodium restriction has been slow to accumulate, only in recent years has the importance of its control been generally appreciated. Restriction of water was previously considered of greater importance, but it has been gradually realized that most cases of clinical edema represent a retention of sodium with a consequent increase in the volume of extracellular fluid.

Complex as the etiological factors may be, the underlying principles of therapy are quite uniform. Nearly all types of edema will respond in some degree to sodium restriction. Often, to obtain a more rapid or complete response, it may be necessary to utilize other means to extract sodium from the extracellular space.

The Sodium Diet. The degree of salt restriction must depend upon the patient's response. Some individuals with mild congestive failure may be allowed a more liberal sodium intake than those with severe cardiac decompensation. However, all too often the so-called salt-free diets are prescribed routinely in every case. This leaves the type and the amount of food to the imagination of the dietitian or whoever is responsible for the meals and may result in the diet's containing as much as 3, 4, or even more grams of sodium per day. Often these people are not aware of the severity of the situation or are not familiar with the importance of the role of sodium in edema formation. To obtain the best results, the diet should be prescribed in terms of the number of grams of sodium desired. This not only is an aid to the person preparing the food but also enables the physician to control the sodium balance more accurately. A diet low in sodium in many instances must be weighed or measured just as is a diabetic diet, since all foods contain some sodium.

The comparative amounts of sodium chloride in various diets are given in terms of grams per day as follows:

Average diet with no restriction.....6-15 Gm.
Average diet with no salt added at the table....4-7 Gm.

Average diet with no salt added in the cooking
or from the table.....3-4 Gm.
Low-sodium diet.....1.5-2 Gm.

In planning a diet low in sodium, certain precautions must be taken. Commercially canned fruits and vegetable contain salt. Protein foods, such as meat, cheese and eggs, have a relatively high content of sodium. Salt, soda or baking powder should not be used in the preparation of food. Butter, bread and salad dressing must be specially prepared to be made salt-free. Medicine containing sodium should be avoided if possible. Salted foods and salty appetizers should be avoided.

In certain areas of the United States, attention must be paid to the drinking water - particularly if diets with moderate to severe restriction of sodium are used. Surface water supplies obtained from lakes or rivers are normally low in sodium. Nelson has reported that water supplies collected from a number of municipal systems in Minnesota contained sodium in amounts varying from 17 to 568 mg. per liter. Certain types of water softeners add considerable sodium to hard water. In water which is completely softened by a zeolite base exchange system, the sodium concentration can be readily obtained by multiplying the hardness concentration expressed as calcium carbonate by a conversion factor of 0.46.

It may occasionally be necessary to restrict the sodium intake to low levels when, for one reason or another, a simple diet is desirable. In these instances, the Karell diet, which contains approximately 400 mg. of sodium, is useful. To increase the caloric intake, sucrose or lactose may be added. The rice diet, containing only rice and fruit, is another simplified way of restricting salt and is relatively easy to prepare.

Wheeler, Bridges and White have pointed out the following advantages of sodium restriction in the management of congestive heart failure: (1) edema can be controlled in many instances in which the usual measures, such as digitalis, moderate salt and fluid restriction and diuretics, have failed; (2) the necessity for frequent use of mercurial diuretics is diminished or eliminated and (3) sodium restriction provides for more fluid allowance and thereby prevents thirst and dehydration.

The greatest disadvantage of such diets is the flat taste of the food. This may be helped to some extent by the use of salt substitutes, most of which contain potassium chloride or ammonium chloride. A completely satisfactory substitute is yet to be found.

The degree to which dietary sodium has to be restricted must be judged in each case. In the treatment of edema due to sodium retention, a therapeutic response will occur in the majority of cases if the sodium intake is limited to 1 Gm. or less per day. In milder cases, 2 or 3 Gm. may offer sufficient restriction to evoke a satisfactory response; in the more severe instances, limitation of the sodium intake to 0.5 Gm. or even 0.2 Gm. may be necessary. Wheeler, Bridges and White used a diet containing 625 mg. (0.625 Gm.) of sodium with good results. Recently, Iseri reported on the administration of a 50-mg. sodium diet in the

treatment of patients with severe congestive failure. In the dietotherapy of essential hypertension, Corcoran, Taylor and Page believe that the sodium restriction necessary to produce a reduction in arterial pressure is 0.5 Gm. They recommend that this regimen be maintained for at least 4 weeks before its effectiveness is judged. (Physician's Bull., Nov-Dec. 1951)

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Blastomycosis

Blastomycosis is produced by Blastomyces dermatitidis, a biphasic fungus, but the mechanism of transmission is not established. This paper presents evidence for a predominantly pulmonary primary infection, based on 22 cases observed in Cincinnati during the past 8 years, and 36 cases from the files of the Armed Forces Institute of Pathology in Washington.

The only diagnostic absolute proof of the disease is by culture. However, demonstration of double-walled single-budding yeast cells 5-20μ in size in exudates or tissues is acceptable proof in the hands of experienced observers. Little biochemical knowledge is available to aid in identifying a culture as Blastomyces and the mycologic diagnosis is largely based on morphology and the biphasic character of growth depending on the temperature of incubation. It should not be confused with Cryptococcus (Torula) neoformans, which is a yeast-like organism which grows as a honey-like colony at room temperature and in the incubator, whereas B. dermatitidis has a yeastlike phase at 37° C. and mycelial growth at room temperature. A huge capsule is formed by Cryptococcus but is absent in Blastomyces. The microforms of blastomycosis must be distinguished from Histoplasma capsulatum.

In view of the confusion regarding the identification of this organism only those cases are included in which either a positive culture was obtained in the authors' laboratory, or the clinical history, microscopic findings and tissue reaction were typical of blastomycosis.

Double-contoured yeast cells especially with single buds are pathognomonic, although confusion with South American Blastomyces, Cryptococcus, Monila and endospores of Coccidioides immitis is possible. Such confusion occurs particularly if only a few or, as sometimes happens, only one organism is found in microscopic sections.

Clinically, except for the skin lesions, blastomycosis is not characterized by any constant syndrome. The manifestations are purely those of the system involved and there is no known premonitory phase. Symptoms of general debility were present in all fatal cases. In the 22 patients from Cincinnati, in addition to skin lesions, the following symptoms or signs were present in the designated number of patients: fever, 11; loss of weight, 11; pain, 7; cough, 7; enlargement of prostate, 4; urinary dribbling or obstruction, 3; dysuria, 2; hemoptysis, 2 and sinus formation, 2. The serologic tests for syphilis in all the Cincinnati patients were negative.

In summary, 2 patients had symptoms of urinary obstruction which were caused by blastomycotic prostatitis and in 1 the diagnosis of the disease was actually made from the prostatic fluid; in 1 case there was a 12-year interval between apparent healing of the first lesions and appearance of exacerbation; in 1 a diagnosis was made by smear and culture of bronchial aspirate and in 1 AFIP case the diagnosis was made by biopsy of bronchial tissue.

All of the Cincinnati patients had lived in the area for at least 5 to 10 years before the onset of their disease. In some of the Cincinnati cases and all of the Washington cases the clinical information was rather incomplete. Of interest were elevated sedimentation rates in 2 AFIP cases. Hemoptysis was noted in 1 AFIP case.

A careful study of the x-ray films of the chest revealed an apparent tendency for terminal miliary spread. No other consistent picture characteristic of blastomycosis was recognized.

In all patients with skin lesions, except 1, x-ray examination of the lungs showed definite disease. Of these, only 1 had a strong suspicion of tuberculosis but this was not confirmed at autopsy. This lends strong weight to the belief that the primary lesion in blastomycosis is in the lung and that almost all skin lesions are the result of hematogenous spread from this primary lesion. Apparently, the role of trauma has been overemphasized.

A tendency to heal is common in the lung and satellite lymph nodes and to some degree in other organs. The disease extends by lymphatic, hematic or canalicular routes, the hematogenous route being most important in the generalization of the disease. Any organ may be involved.

Blastomycetes were repeatedly seen in blood vessels, and once in a blood vessel of a kidney without blastomycotic granuloma. Blastomycetes were also found in bone marrow. Blastomycotic bronchitis (destruction of bronchial mucosa) in smaller bronchi is a constant finding in cases of active pulmonary disease. Perforation of such bronchi into the parenchyma of the lung has been observed.

In pulmonary blastomycosis cavities are uncommon and when present are small and represent necrotic foci without prominent walling-off. Pleuritis is usually dry and fibrinous and is constantly found in pulmonary disease.

Transmission must be by way of the respiratory tract, but the source of infection is unknown. Skin-testing of contacts did not produce evidence for transmission of the disease from man to man.

Treatment with iodides is empirical and antibiotics apparently are of no help. There is little proof that desensitization with vaccine is beneficial. Surgery was of definite value in 4 patients with isolated cutaneous lesions. (Am. J. Clin. Path., Nov. 1951, J. Schwarz & G. L. Baum)

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Cortisone or Corticotropin for Asthmatic Patients Who Require Major Surgical Procedures

It is necessary to delay most major surgical procedures for patients who have asthma until the patient's cough, paroxysmal dyspnea and orthopnea are well controlled. This is particularly important in surgical procedures directed to the thoracic, renal and upper abdominal areas, in which splinting of the diaphragm commonly occurs postoperatively. Usually, but not always, a preliminary period of hospitalization with symptomatic treatment and appropriate attention to any existing complications of asthma suffices to get the patient ready for the needed operation. However, the authors have recently encountered difficulty in bringing asthma under control within a reasonable period in 4 patients who needed surgical attention. In 1 patient who had colic from gallstones while she was receiving preoperative treatment of her asthma, cortisone brought about prompt remission of the asthma, which permitted successful and uncomplicated cholecystectomy. For a second patient who had a large incarcerated umbilical hernia, corticotropin (ACTH) was resorted to when other measures were not adequate to control her asthma and to make repair feasible. The third patient, who had intractable asthma and vasomotor rhinitis, was readily prepared for thyroidectomy with the use of corticotropin. Thyroidectomy was carried out without incident for the fourth patient, who had asthmatic bronchitis and mild emphysema, after preoperative preparation with cortisone given orally. Thus, the preoperative administration of cortisone and corticotropin in these 4 patients proved effective and valuable.

Since cortisone and corticotropin (ACTH) had been shown experimentally to retard fibroblastic reaction, it was felt safer to discontinue the administration of either preparation for a few days before surgical treatment. There remains some question about how important or necessary such a delay actually is, inasmuch as relatively huge doses of cortisone and corticotropin were necessary to retard fibroblastic reaction experimentally.

The only complication which perhaps could be attributed to the medication occurred in the second case. An abscess occurred at the site of the intramuscular injection of corticotropin, probably as the consequence of a breakdown in technic, rather than the effect of corticotropin on fibroblastic reaction. (A. M. A. Arch. Surg., Nov. 1951, L. E. Prickman, G. A. Koelsche, H. M. Carryer, C. K. Maytum & G. A. Peters)

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Spontaneous Subarachnoid Hemorrhage Occurring in Noneclamptic Pregnancy

The clinical picture of spontaneous subarachnoid hemorrhage is strikingly similar in all cases and may occur at any age. The bleeding almost invariably results from leakage of a faulty vessel wall, rupture of an aneurysm, or some other vascular anomaly. Almost without exception, the patient is suddenly seized

with severe headache, usually in the occipital region. This may be accompanied with nausea and vomiting. Derangement of the conscious state follows, which varies from confusion to coma, depending on the degree of extravasation. Stiffness of the neck is almost always present. On occasion, bleeding may occur into the brain substance itself, giving rise to localizing signs of hemiplegia, aphasia, hemianopsia or inequality of the pupils, depending on the location of the clot. Not infrequently the patient will have convulsions. The presence of blood in the spinal fluid is the sine qua non upon which the diagnosis rests. This criterion was fulfilled in all the authors' cases by lumbar puncture, except one in which blood was found in the fluid at autopsy.

The cases of 20 noneclamptic women in whom spontaneous subarachnoid hemorrhage developed were culled from the literature; to these the authors add 8 more cases, making a total of 28. There were 12 primiparas, 10 multiparas and the state of parity of 5 was not given. In 21 patients the source of hemorrhage was not determined. A ruptured aneurysm was the cause of hemorrhage in 6 patients, and in 1 bleeding was secondary to an angioma of the cerebellum. Nineteen infants lived, 5 died and the fate of 4 was not stated. Fifteen mothers were delivered from below, and 7 by cesarean section, 4 died undelivered and the method of delivery of 2 was not stated. Twelve mothers (42.9 %) died; of the 16 who survived, 2 had transient psychosis and 2 were temporarily hemiplegic.

With the occurrence of spontaneous subarachnoid hemorrhage associated with pregnancy, it is imperative to determine whether or not toxemia is the causative factor in the bleeding.

In the presence of spontaneous subarachnoid hemorrhage, the patient's condition permitting, cerebral angiography is believed indicated. The optimum time for this procedure will depend on the total appraisal of the patient; it may sometimes be carried out during the active hemorrhagic phase. Because it offers the only reliable means of demonstrating the source of hemorrhage, angiography should be employed, especially when mild pre-eclampsia may suggest a toxic basis. In some cases elimination of the cause may be life-saving. The appropriate time and mode of treatment of an accessible aneurysm or vascular anomaly will depend upon the judgment of the neurosurgeon. At times it may be carried out as a lifesaving measure, regardless of the stage of pregnancy. Unless the actual source of hemorrhage is demonstrated, a conservative regimen, with absolute bed rest for several weeks, should be rigidly enforced.

The mode of delivery is the problem that faces the obstetrician. Conley and Rand agree with the majority of other authors that cesarean section is the method of choice, as it obviates the strain of labor. Even though the majority of hemorrhages occurred before labor, it seems irrefutable that the physical efforts demanded by labor could well serve to precipitate a hemorrhage in a patient with a known vascular abnormality.

Some authors, such as Rhoads, believe that in all cases of proved bleeding from intracranial aneurysm termination of pregnancy is justified. Others may agree with him that additional pregnancies should be prevented, preferably by sterilization, in women with a history of subarachnoid hemorrhage. The present authors are of the opinion that future pregnancies would tend to place the patient

in added jeopardy. The physician should recall the patients who succumbed to subarachnoid hemorrhage with the first demands of labor, as well as those who have passed successfully through multiple pregnancies. Rarely in medicine is a prognosis more difficult to render. (A. M. A. Arch. Neurol. & Psychiat., Oct. 1951, J. W. Conley & C. W. Rand)

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Proctalgia Fugax

Proctalgia fugax is a well defined symptom complex of obscure etiology and pathology, probably caused by spasm either of the internal anal sphincter or the anorectal ring, or both. It is characterized by attacks of severe paroxysmal pain localized to the region of these muscles and may be associated with concomitant symptoms, such as precordial pressure, pallor, profuse perspiration and transient syncope.

The incidence of this disorder is difficult to determine. It is relatively rare and probably most physicians are not familiar with the condition, although it is encountered more frequently than supposed and should always be included in the differential diagnosis of anorectal pain. To date, 125 cases have been reported. Most of these occurred in adults, usually males, aged from 30 to 50 years. Interestingly enough, physicians comprise a large percentage of the victims. The oldest patients have been in their seventies, with only a few patients below the age of 20.

There appears to be general agreement that the immediate cause is muscle spasm. The reasoning for this point may be summarized as follows: (1) The pain is spastic in nature. (2) It is relieved by the administration of antispasmodic drugs, by means of pressure exerted by rectal insufflation of air or the use of enemas, by heat and by various positions which the patient may assume in order to stretch the pelvic muscles.

Nitroglycerine administered sublingually at the onset of pain will abort an attack in many instances.

The authors present a brief review of the evolution of proctalgia fugax as a clinical entity and a theory for its pathogenesis. (Am. J. Surg., Nov. 1951, J. D. Karras & G. Angelo)

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Results of Splenectomy

Hypersplenism is a physiopathologic state in which there is overactivity of one or more of the normal functions of the spleen, and its physical evidence is usually the presence of splenomegaly. The hypersplenic state is not peculiar to one disease entity, but is the manifestation of a splenic instability, either primary or secondary, which may accompany several clinical syndromes of widely divergent characteristics. Splenectomy is usually indicated.

Studies of the response to splenectomy in selected groups of cases in which the hypersplenic state has been categorized (for example, congenital hemolytic icterus, thrombocytopenic purpura or congestive splenomegaly) have yielded valuable information regarding prognosis in these conditions. A 5-year follow-up study of unselected, consecutive splenectomies based on the preoperative clinical diagnoses permitted evaluation of the preoperative clinical impression in the light of the patient's eventual postoperative course. It was thought that a review of a series of patients whose spleens were removed over a limited period would be more informative than a large series of patients who underwent operation over a long span during which operative indications were less homogeneous. Thus, the records of 140 consecutive patients who had undergone splenectomy at the Mayo Clinic during the 3-year period, 1942 to 1944 inclusive, were studied. Cases in which the spleen was removed as a secondary procedure (as in total gastrectomy for carcinoma) or in which splenectomy was performed for traumatic splenic rupture, were not included. By means of personal interviews at the clinic, questionnaires, and letters from relatives and local physicians, the authors are able to report on the outcome of a majority of these patients during a 5-year period since their operations.

Splenectomy can be performed for any of the conditions associated with hypersplenism with a reasonably low mortality rate. An occasional exception to this statement is congestive splenomegaly, in which the operation carries a higher mortality rate than when it is performed for the blood dyscrasias. In this series of 140 consecutive splenectomies there were 6 hospital deaths, constituting a mortality rate of 4.3 %. These deaths occurred after splenectomy for congenital hemolytic icterus (1), after splenectomy for thrombocytopenic purpura (1) and following splenectomy for congestive splenomegaly (4). Five of the 7 deaths in another series (Cole, et. al.) followed splenectomy for so-called Banti's disease. A contributing factor to the increased risk in these patients is the presence of extensive perisplenitis and the high degree of vascularity in the splenic area due to the many venous collaterals. Four of the 5 hospital deaths in Cole and associates' series of patients with congestive splenomegaly were due to postoperative hemorrhage, as were 2 of the 4 in the Mayo Clinic series. In the 2 additional patients in this category in this series extensive thrombosis of the portal vessels with gangrene of the small intestine was found postmortem. Quan and Castleman have emphasized the frequency of portal vein thrombosis in patients who had succumbed following transthoracic gastrectomy and incidental splenectomy. Allen, Barker and Hines found that postoperative thrombophlebitis and pulmonary embolism occurred in 5.12 % of 391 patients undergoing splenectomy, an incidence higher than that occurring after any other type of operation. In view of these facts, more liberal prophylactic use of the anticoagulants may be indicated after splenectomy even when the operation has been performed for congestive splenomegaly.

The success of splenectomy for hypersplenic disorders frequently will depend upon whether accessory spleens have been found and removed. In the series herein reported, accessory spleens were found and extirpated in 25 cases

and in 31.4 % of another series of 174 patients. The frequency of accessory spleens in these two series plus the fact that they are often multiple emphasizes the necessity for careful search throughout the entire peritoneal cavity.

Splenectomy has been most consistently valuable as a therapeutic measure in congenital hemolytic icterus and primary thrombocytopenic purpura. At the date of this study, all of the 29 traced patients who had been correctly diagnosed preoperatively as having congenital hemolytic icterus were alive and well at least 5 years after splenectomy. Of 32 traced patients with an established diagnosis of primary thrombocytopenic purpura, 87.5 % reported a complete and sustained remission. The results are classified as only fair to good in the remaining 12.5 %, since there have been further mild episodes of epistaxis or purpura. However, all of these patients are alive and carrying out normal activities after splenectomy.

Hemolytic anemias of the acquired type respond less favorably to splenectomy. In 5 of the cases in this series the disease was diagnosed as acquired hemolytic anemia. In 1 case the anemia proved to be secondary to a chronic myelogenous leukemia. In another instance lymphosarcoma was later discovered to be the basis of the anemia, and splenectomy has been of little or no benefit. The 3 remaining cases were considered to be of the primary or idiopathic type of acquired hemolytic anemia; results have been excellent in 2, while the third patient remains severely anemic with recurrent jaundice.

The hypersplenism which is secondary to congestive splenomegaly is rarely a major factor in the patient's ultimate poor prognosis. The majority of patients with so-called Banti's disease succumb to hemorrhage from ruptured esophageal varices. The hypothesis that splenectomy removes enough circulating blood volume from the portal circulation to reduce portal hypertension effectively has declined in favor in recent years. It is questioned whether splenectomy diminishes the associated pancytopenia consistently and completely enough to make it justifiable as even a palliative procedure. Of the patients on whom data are here reported who underwent splenectomy for congestive splenomegaly, 80.5 % have been traced during a 5 year period. Only one half of these patients have survived for 5 or more years. Recurrent episodes of hematemesis have occurred in 41.2%. Of those traced, only 30.3 % have had satisfactory long-term results. Although this discouraging figure casts serious doubt on the justifiability of splenectomy alone as a curative procedure in congestive splenomegaly, it should stimulate further investigation along such therapeutic lines as total gastrectomy or the various venous shunts. (Ann. Surg., Nov. 1951, E. M. Miller & A. B. Hagedorn)

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Dilatation and Curettage

Dilatation and curettage may be done for diagnostic or therapeutic reasons, or both. It is in the diagnostic field that the greatest number of errors occur. When the procedure is properly carried out, tissue from the endocervix may be obtained separately from that in the uterine cavity (fractional curettage), thus

making it possible to differentiate cervical from corpus abnormalities. The curet also permits a modified digital exploration of the uterine cavity which demonstrates irregularities. Tissue removed should always be subjected to careful gross and microscopic examination.

The commonest indication for diagnostic dilatation and curettage is bleeding. In the younger age group, so-called functional bleeding is the most frequent cause. Such a diagnosis is not possible without a confirmatory dilatation and curettage. A curettage is preferable to endometrial biopsy since, with the patient anesthetized, it is possible to empty thoroughly the uterine cavity, providing a secondary therapeutic effect. Thorough curettage will eliminate, in most cases, the endometrial polyp as the cause of bleeding irregularities. Repetition of the procedure will often control hemorrhage; more drastic procedures are avoided and the childbearing function maintained.

When one is seeking the cause of intermenstrual bleeding in the presence of a clean cervix, fractional curettage should be carried out and the tissues from the two sites examined separately. It is also wise, in these instances, to carry out a diagnostic conization.

In the menopausal age group, aberrations from normal are not unusual and carcinoma must be eliminated as a cause. At the time of menopause, bleeding should be less frequent, of shorter duration and of diminished quantity. Due to the misuse of hormonal therapy, irregular or profuse bleeding during the menopause is increasingly common. The only method of proving that hormones have caused the bleeding is by thorough endometrial curettage. It is always possible for a patient to develop carcinoma concomitant with hormonal therapy. Menopausal irregularities often can be controlled by dilatation and curettage, thereby eliminating such radical methods as castration or hysterectomy. Unexplained discharge is also a frequent symptom of carcinoma of the endometrium and, in such cases D and C is mandatory.

Any woman who experiences postmenopausal bleeding or spotting, with or without hormonal therapy, should have dilatation and curettage with thorough examination under anesthesia in order to exclude carcinoma and ovarian disease. One may complete the dilatation and curettage without having discovered the origin of the bleeding, but neoplasm, for the most part, will have been eliminated as a causative factor.

In the case of the asymptomatic cervical polyp, as a general rule, a Papanicolaou smear should be taken, followed by removal of the polyp in the office (preferably with a tonsil snare). Should the polyp recur, a dilatation and curettage is indicated. A polyp which is associated with abnormal bleeding should be removed under anesthesia and accompanied by a thorough curettage.

An increasingly common indication for dilatation and curettage is a positive Papanicolaou smear. When this occurs, without evidence of cervical abnormality, a fractional curettage should be performed with incidental conization. A more radical procedure such as hysterectomy is not considered justified on the evidence of a single positive smear, and every attempt should be made to find the source of the atypical cells.

Another diagnostic possibility is that of combining dilatation and curettage with abdominal pelvic exploration. This is particularly important when there is any associated irregular vaginal bleeding. If dilatation and curettage are performed prior to laparotomy, a final pelvic evaluation may be made before performing an abdominal exploration. In the process the cervix is observed and abnormalities are treated intelligently. Practically every practicing gynecologist has seen patients upon whom subtotal hysterectomies were performed for bleeding which later proved to have been cervical in origin. Hendricks has recently reported 6 cases of this type.

When the indication for hysterectomy is a myomatous uterus, with symptoms of bleeding, it does not always mean that bleeding is due to the myoma; neither does it preclude the presence of associated carcinoma of the endometrium. When a diagnosis of carcinoma is thus made, or when suspicion regarding its presence exists, further operative procedure should be suspended. Primary hysterectomy is not the treatment of choice in corpus carcinoma. Instead, preliminary irradiation followed in 6 weeks by total hysterectomy and bilateral salpingo-oöphorectomy is generally accepted as more satisfactory therapy. Pelvic examination at best is inexact and only through constant determined effort can skill be attained. There is no better way to test the accuracy of palpation than by examination immediately followed by laparotomy.

In dealing with the problems of infertility, it is possible to establish the presence or absence of ovulation in the current cycle, providing proper timing is observed. Dilatation and curettage should be carried out on the first day of the menstrual period in these cases. It is preferable to endometrial biopsy in many instances, since it provides more complete information.

In carefully selected cases of dysmenorrhea, D and C is a valuable procedure and one which should be initiated as a therapeutic measure before attempting intra-abdominal intervention. It is particularly of value in those cases of primary dysmenorrhea which are refractory to medical therapy.

Dilatation and curettage is a generally accepted therapeutic measure in treating retained products of conception and pregnancy complications such as moles.

Contraindications are the presence of acute cervical lesions or vaginitis, since pelvic inflammatory disease may be a sequela. The chronically infected cervix can be treated by means of preliminary conization, thereby eliminating the infection and decreasing the chance for infectious material to enter the uterine cavity. A preliminary conization also makes dilatation of the cervix easier. There have been objections to dilatation and curettage associated with cervical procedures, but Crossen has demonstrated the value of the procedure by discovering 8 cases of carcinoma of the endometrium at the time of conization.

Lacerations of the cervix may occur when forceful dilatation is employed. Perforation of the uterus is not an infrequent complication despite precaution and awareness of its possibility. Predisposing factors are inadequate preliminary cervical dilatation, too small or too large a curet, a large, boggy uterus (as evidenced in instances of incomplete abortion), or a uterus with soft spots (such as

one containing an area of carcinoma). The curet should be held like a pencil, to minimize further the chances of perforation.

When perforation occurs, one should suspend further attempts at curettage and return the patient to bed. If there is evidence of excessive bleeding into the peritoneal cavity, laparotomy should be performed to repair the hole in the uterus. Evidence of infection should be treated with appropriate antibiotic measures, although prophylactic chemotherapy may occasionally be employed. If a small piece of bowel is drawn into the uterus with a curet, laparotomy is necessary.

The vast majority of perforations result in no remarkable complications and further procedure is unnecessary. (Cleveland Clinic Quarterly, Oct. 1951, J. S. Krieger)

* * * * * *

A Simple Electrical Apparatus for the Clinical Treatment of Ventricular Fibrillation

The successful treatment of cardiac arrest which occurs in the form of ventricular fibrillation depends upon the defibrillation of the ventricles and restitution of a good heartbeat. The only consistently successful clinical method of defibrillation is by electrical means. This method is not new; it was first described in 1899 by Prevost and Battelli.

In 1949 Beck and Rand stated that they had successfully electrically defibrillated the ventricles of the heart in 2 patients, both of whom recovered completely. In one of these patients cardiac arrest had been present for 1 hour and 10 minutes. In 1950 Southworth, et al. reported the successful electrical defibrillation of a case of ventricular fibrillation which occurred during cardiac catheterization. The heart was defibrillated on the seventh attempt, after 45 minutes of cardiac arrest, and the patient recovered completely. In 1951 Johnson and Kirby reported the successful electrical defibrillation of the heart in 8 patients, 4 of whom recovered.

Two patients with ventricular fibrillation occurring during surgery have been treated successfully by electrical defibrillation at The Johns Hopkins Hospital. Both recovered completely without evidence of neurological changes. Cardiac arrest had been present for 15 minutes in 1 case and 5 minutes in the other. The authors employed the simply constructed, inexpensive apparatus which is illustrated on the following page.

To operate the apparatus, the supply cord to the isolation transformer should be plugged into a 110 to 120 volt: 60 cycle alternating current wall outlet and the variac should be set at 130 volts. The sterilized padded electrodes, with their cord and plug, are connected to the power unit by placing the plug in the convenience outlet next to the pilot light. If the power unit is functioning, the pilot lamp will light when the foot switch is depressed.

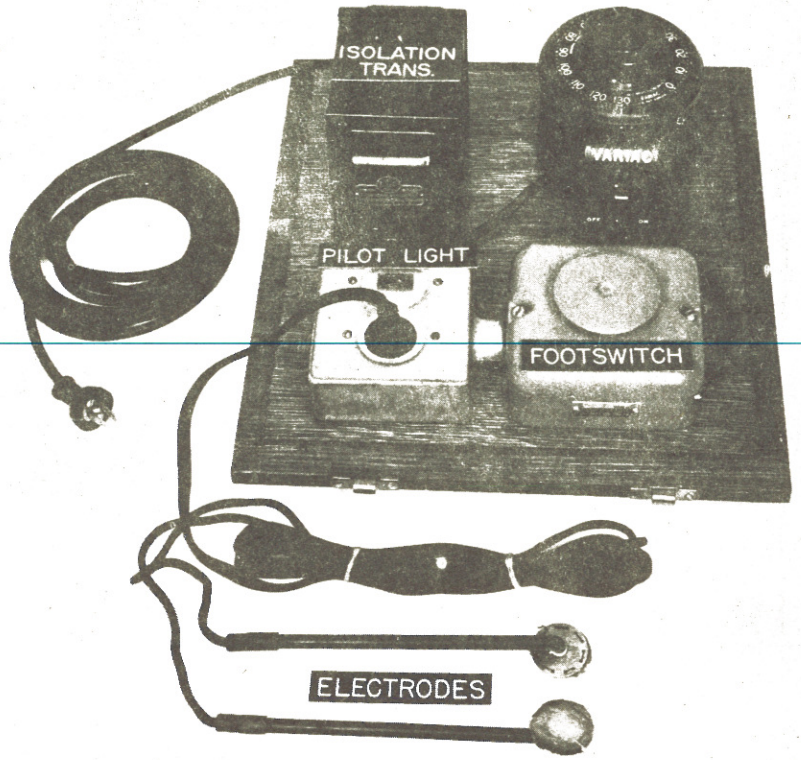

Fig. 1.—Electrical defibrillator.

In the treatment of ventricular fibrillation it is extremely important to massage the heart prior to an attempt at electrical defibrillation. Massage must be continued until the heart is no longer dilated or cyanotic before attempting defibrillation. This usually requires 1 or 2 minutes.

After the heart has been massaged and is no longer dilated or cyanotic, it is defibrillated. This is accomplished by soaking the felt-padded electrodes in an isotonic saline solution and placing the electrodes on the right side of the right ventricle immediately beneath the right auricular appendage and on the left ventricle at the apex of the heart.

An electric current is then passed through the heart for 1 second or less by stepping upon the foot switch. If several single shocks fail to defibrillate the heart, it should be massaged for another minute and serial defibrillation, as first described by Wiggers, should be attempted. This consists of passing a series of shocks through the heart. The shocks last 1/3 second and there is a 1/3 second interval between shocks. If a series of 6 to 8 shocks is unsuccessful, the heart should be massaged again and serial defibrillation should be repeated.

Procaine or other myocardial depressants are not usually necessary adjuncts in the treatment of ventricular fibrillation; when they are used, it is more difficult to treat the ventricular standstill that may result following the

electrical defibrillation of the heart. If many attempts at serial defibrillation fail, 5 cc. of 1 % procaine may be injected into the left ventricular cavity, the heart massaged for a minute or two, and serial defibrillation again attempted.

Following successful defibrillation, the heart may begin forceful contractions immediately. If it does not, the heart should be massaged for several minutes. If massage alone fails to restore a normal beat, 1/10 to 1/3 cc. of 1:1,000 epinephrine hydrochloride in 5 cc. of isotonic saline or 2 to 4 cc. of 10% calcium chloride, as recommended by Kay and Blalock, should be injected into the left ventricular cavity and cardiac massage continued. The cardiac stimulants may be repeated every 2 to 3 minutes. It may be necessary to use 1/3 cc. of 1:1,000 epinephrine hydrochloride before a good beat is restored, but it is better to use a smaller dose initially because some hearts may revert to fibrillation with a large dose. It is necessary to continue vigorous cardiac massage about 40 times per minute until effective spontaneous cardiac contractions occur. (Surgery, Nov. 1951, W. B. Kouwenhoven & J. H. Kay)

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Hemodynamic Changes Following Procaine Amide Administered Intravenously

Procaine, in the form of the hydrochloride, has been known for many years to have an antiarrhythmic action on the ventricular muscle. It has been used quite generally for that purpose by anesthetists. (See Medical News Letter, Vol. 18, No. 2, p. 6)

So far as can be determined, no observations have been reported on the effect of procaine amide on such fundamental hemodynamic functions as cardiac output and velocity of blood flow. Consequently, as a supplement to a clinical study of the antiarrhythmic effects of the drug in 41 patients exhibiting 51 ectopic rhythms, an investigation of these fundamental hemodynamic effects was instituted in 10 individuals, 3 with normal hearts, 7 with heart disease.

All of the patients were fasting and in the recumbent position when the studies were carried out. In each one, cardiac catheterization was performed and control studies were carried out prior to the injection of the drug. Then, while the catheter and cannula remained in place, procaine amide was injected intravenously at a rate not exceeding 100 mg. per minute, an electrocardiogram being recorded continuously and the blood pressure taken in the usual manner at frequent intervals. Immediately following the end of the injection, the hemodynamic studies were repeated and again 30 minutes later. A total of 1,000 mg. procaine amide was given to every patient except 1, who received 500 mg.

In an attempt to evaluate the hemodynamic actions of procaine amide in this group of patients, only the immediate effects of the drug were studied. It is recognized that the figures for cardiac output obtained by the dye-injection method may not represent true absolute values, for there are probably errors

in the method which are due to recirculation of dye. Nevertheless, these errors are all in the same direction and it is reasonable to believe that the changes in the cardiac output determinations which are obtained on the same individual reflect what is actually occurring in the heart's dynamics. Hence an increase or a decrease in the figure is considered to be significant, even though it may be argued that it may not be strictly quantitative.

The likelihood that psychic factors influenced the results appreciably is not great. Such factors as apprehension tend to accelerate the velocity of blood flow, rather than to retard it as usually was the case in this study. Furthermore, in a large number of other patients in whom the identical procedure has been carried out without the introduction of any other known variable factor, the cardiac output figure has generally been reproducible within ± 10% of the initial level.

From the data gathered, it appears that one of the more important effects of the intravenous administration of the drug is a reduction in cardiac output. It is well known that the dynamics of the circulatory system depends upon the discharge volume of each ventricle, the elasticity and peripheral resistance of the peripheral vessels, and the viscosity and volume of circulating blood. The output of the heart depends (among others factors) upon the efficiency of its contractions and upon the venous return. If a decrease in venous return were the dominant factor in the reduced cardiac output that usually followed the administration of procaine amide in these patients, there should have been an associated rise in peripheral resistance with an increase in mean radial arterial pressure. This was not usually the case, for in those cases where the peripheral resistance did increase, the radial artery pressure nearly always fell. It would appear, then, that the fall in cardiac output was the result of a primary myocardial action. The effect of procaine amide on the peripheral arteriolar bed appears to be variable.

These studies also suggest a rather important conclusion. It is rather striking that the patients with normal hearts showed no fall in cardiac output, whereas all of those with heart disease did. Moreover, the decrease in velocity of blood flow and in mean radial and pulmonary arterial pressures was definitely less marked than in those patients with diseased hearts. The clinical studies revealed less interference with intraventricular conduction in patients with normal hearts than in those with diseased hearts. It is quite probable, therefore, that procaine amide has very definitely a greater deleterious myocardial action on diseased hearts than on normal ones, and that its harmful effects on the normal heart are comparatively mild. This is a point of the utmost clinical importance, since many of the arrhythmias for which the drug appears to be useful occur in apparently quite normal hearts. It is concluded, therefore, that caution should be especially observed in those patients whose hearts are known to be damaged, but that in normal hearts it is probably a comparatively safe drug. (Am. J. Med. Sciences, Oct. 1951, R. L. McGlendon, W. R. Hansen & J. M. Kinsman)

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Effective Application of Banthine in Dermatology

Grimson and his co-workers recently advocated in a preliminary report of 4 cases the successful use of banthine bromide in the treatment of hyperhidrosis. The purpose of this report is to describe the use of banthine bromide not only in the treatment of hyperhidrosis but also in the treatment of several of the common dermatoses aggravated by or possibly produced by excessive sweating.

Twenty-seven patients were divided into two groups. The first group of patients were those with functional disturbances of the sympathetic nervous system, characterized by localized hyperhidrosis involving the palms, soles and axillae, alone or conjointly. This condition is usually symmetrical; the affected parts are cold and clammy to the touch, and the skin is frequently macerated, sodden and thickened.

The second, and larger, group of patients were those with several common dermatoses, such as contact dermatitis of the hands, vesicular eruptions of the hands and feet (dyshidrosis) or intertrigo. Varying degrees of excessive sweating accompanied each of these conditions. Patients with an erythematous vesiculopapular contract dermatitis of the hands were chosen because the irritating properties of palmar sweat frequently prolong the period of recovery. Another type of contact dermatitis treated with banthine bromide is a recurrent vesicular eruption of the hands and fingers characterized by pearly translucent vesicles without erythema, accompanied by excessive sweating and developed from chronic irritation. Patients with recurrent, pruritic, deeply situated vesicles of the hands and feet but with no evidence of fungous infection were also given banthine bromide. These vesicles were typical of dyshidrosis, which is a persistent disease, accompanied by hyperhidrosis and believed to be a psychosomatic dermatosis. Patients with intertrigo were also selected because friction or external irritants stimulate the regional sweat glands. The increased production of sweat macerates the skin, and an exudative type of dermatitis follows.

During the first week patients were given 25 to 50 mg. 3 times daily. Each week the daily dosage were increased 100 mg. until the desired clinical results were obtained, usually in the range of 100 to 200 mg. The maximum daily dose given to 2 patients was 450 mg.

Initial dryness of the mouth was noted by 7 patients and transient blurring of vision by 3. Temporary urinary retention was noted in 1 patient.

The patients were observed for from 6 to 16 weeks, with an average of 8 weeks. In each of the 5 patients treated for hyperhidrosis there was marked improvement with complete remission of symptoms. Eight of 10 patients treated for contact dermatitis associated with excessive sweating showed marked improvement with decreased erythema and no further vesicle formation; 1 patient had moderate improvement and another only slight improvement. Of 6 patients treated for vesicular eruptions of the hands and feet (dyshidrosis), 4 had marked improvement with dryness of the areas and disappearance of the vesicles and 2 showed moderate improvement. Of the 6 patients treated for intertrigo, 3 had marked improvement with diminished erythema and itching, 2

had moderate improvement, and 1 patient had only slight improvement. Among all patients, 74 % showed marked improvement with banthine-bromide therapy, 19 % had moderate improvement and 7 % had slight improvement.

The present authors corroborated the observation of Grimson et al. that excessive sweating in patients with uncomplicated hyperhidrosis can be effectively controlled by banthine bromide. In addition, Brown and Sandler observed that cases of contact dermatitis associated with excessive sweating responded more quickly to the combined use of local applications and banthine given orally and a more rapid involution of the vesicles.

Banthine is felt to be of definite value in the treatment of certain diseases of the sweat glands. The drug is being used in 2 patients with hydradenitis axillaris suppurativa with promising effectiveness. In 2 other patients with menopausal symptoms complicated with severe sweating, banthine has produced marked relief of perspiration which the optimum estrogenic regimen was unable to control. In 1 patient with nocturnal sweating so severe as to necessitate a change of nightclothes every 2 hours, banthine produced an abrupt remission of sweating. These results are sufficiently encouraging to warrant a more comprehensive clinical evaluation. (A. M. A. Arch. Dermat. & Syph., Oct. 1951, C. S. Brown & I. L. Sandler)

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Drug Fatalities

Dr. N. Flaxman in J. A. M. A., 29 September 1951, reviewed 107 drug fatalities reported in available literature since December 1946. These deaths resulted not only from drugs given orally and parenterally but also from certain ones used in diagnostic procedure.

Fatalities resulted from oral medication of dicumarol, mesantoin, tridione, phenurone, lithium chloride, sulfathalidine, sulfadiazine, sulfathiazole, thiouracil, acetylsalicylic acid, thiocyanates, ertron, cinchophen, presidon and antabuse; from parenteral administration of penicillin, streptomycin, curare, mercurial diuretics, neosalvarsan, aminophylline, analbis, tetraethylammonium chloride and tetraethylammonium bromide, influenza virus vaccine, emetine and phenol; and from the diagnostic procedures of angiocardiography, cholecystography (pitressin), pyelography (diodrast), myasthenia gravis (neostigmine) and from allergy tests.

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Logistics Reference Data (NavSandA Publication # 94)

This publication is a digest of some of the information most commonly used in logistics planning and a compilation of logistical data of value primarily to staff planners in the formulation of logistics plans.

It is one of BuSandA's contributions to aid the staff planner in solving logistics problems. Much of this information is within the cognizance of other

bureaus and is approved or actually submitted by those bureaus.

In the spring of 1946 the Chief of Naval Operations authorized the Chief of the Bureau of Supplies and Accounts to publish the "Navy Material Logistics Handbook consisting of general information of value to staff planning agencies and other activities whose duties are primarily of a logistical nature". This Handbook as originally conceived consisted of a number of chapters many of which have since been absorbed into various naval publications.

Recognizing the constantly changing aspects of the Logistics field and the dangers of using obsolete data in logistics planning, the Chief of Naval Operations directed that the Logistics Reference Data be brought up to date and that procedures be set up to maintain it as nearly current as possible. Accordingly, the 1951 revision is now being distributed by the Publications Division of the Bureau of Supplies and Accounts. Future revisions will be accomplished on a "Chapter-a-Month" basis which will assure the entire publication's being covered in a 12 month period.

Beginning with July 1951 the "Chapter-a-Month" system of accomplishing revisions was instituted. This system gives the opportunity for one subject area to be intensively studied, conclusions drawn and necessary revisions published. The various areas are taken up in rotation so that in the course of a year the 12 revisions issued will cover the entire publication.

The 1951 edition has a new format, a permanent loose leaf binder similar to that of manuals of the various bureaus. Other features include tabs for locating sections, a textbook type Table of Contents, a detailed index, the substitution of legible tables for illegible graphs and the use of uniform size type for all tables. By being more useable than the now discarded 1946, 1947,and 1948 editions, the newly arrived 1951 edition should prove more useful to all concerned. Desired information should be easily located and incidences of omission or error as quickly determined.

The Table of Contents of the 1951 revision reveals little that is startlingly new in subject matter to someone thoroughly familiar with the contents of the old editions. The latest edition of source publications was used, and the cognizant bureaus and offices furnished revised tables on the basis of the latest available figures. Suggestion of new areas and new types of information were side-tracked for later intensive consideration by subject.

Being primarily designed for the use of Staff Planners, the Logistics Reference Data presents its material in the form most applicable to the Theater or Task Force level covering as wide an area as possible. A wealth of detail is omitted because of space limitations and recognition that the operating level will use the publication only as a general guide to develop its own specifics.

The distribution policy for the Logistics publications is to maintain the list of recipients by activity rather than by individual. It is recommended, however, that all officers in billets as logistics operators and possible logistics data generators become familiar with the scope of the Logistics Reference Data,

keep it in mind in evaluating the output of their own activities and submit comments and suggestions as applicable. (Monthly Newsletter, BuSandA, Aug. 1951, pp. 14-15; Assistant Chief of Bureau for Planning and Logistics)

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Postgraduate Training in Periodontia and Oral Medicine, New York University College of Dentistry

The Periodontia Department of New York University College of Dentistry announces its full time course in Periodontia and Oral Medicine for 1 academic year, 22 September 1952 to 22 May 1953, leading to a certificate. The course is limited to four. Half-time 2 year courses are also given as well as a 3 weeks refresher course beginning 2 June 1952.

For information concerning the above or courses in other phases of dentistry write to Secretary, Postgraduate Division, New York University College of Dentistry, 209 East 23rd Street, New York 10, N. Y.

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List of Recent Reports Issued by Naval Medical Research Activities

U. S. Naval School of Aviation Medicine, U. S. Naval Air Station, Pensacola, Fla. and Tulane University, New Orleans, La.

The Effects of Auditory-Vestibular Nerve Pathology on Space Perception, NM 001 063.01.22, 15 August 1951

Medical Research Laboratory, U. S. Naval Submarine Base, New London, Conn.

Proposed Armed Forces Color Vision Test for Screening, MRL Report 180, NM 003 041.10.01, 20 August 1951

The Effect of Inhalation of Low Oxygen Concentration (10.5% O_2 in N_2) Over a Period of 33 Minutes on Respiration, Pulse Rate, Arterial Oxygen Saturation (Oximeter) and Oxygen Uptake, NM 002 015.03.02, 8 August 1951

Breathholding Breakpoint at Various Increased Pressures, NM 002 015. 01, 10 August 1951

Oxygen Consumption and Carbon Dioxide Excretion of Guinea Pigs Under Basal Conditions on Air and Exposed for Four Hours to 3% CO_2 and 21% O_2, NM 002 015.03.02, 17 August 1951

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From the Note Book

1. Drs. W. R. Lovelace II and C. W. Mayo report that: (1) 975 of every 1,000 men wounded in the Korean fighting are surviving, the highest rate on record; (2) 15 pints of blood is the average requirement in severe surgical cases and the maximum has been 26 pints; (3) the Atomic Bomb Casualty Commission Laboratory at Hiroshima continues the follow-up studies on bombing victims. (Washington News, J. A. M. A., 17 November 1951)

2. The formal signing of Articles of Affiliation between Tulane University of Louisiana and the Naval School of Aviation Medicine, Naval Air Station, Pensacola, Florida, took place at the Naval Air Station on 16 November 1951. The graduate students from Tulane University will continue their research activities at the Naval School of Aviation Medicine and now Naval Flight Surgeons and others of the faculty of the School may earn academic credit from the Graduate School of Tulane University for their research work. (PIO BuMed, 21 November 1951)

3. The Committee of Vice Presidents of the Association of Military Surgeons, have awarded the Wellcome Prize and medal for 1951 to Lt. Col. R. B. Lewis, Medical Corps, U. S. Air Force, for an essay on "Local Cold Injury - Frostbite". Second choice, carrying a life membership in the Association, was an essay by Col. J. H. Forsee, Medical Corps, U. S. Army, with the title, "A New Era in the Surgical Treatment of Pulmonary Tuberculosis for Military Personnel." (Association Notes, The Military Surgeon, Nov. 1951)

4. Physical changes associated with adolescence in boys is discussed in A.M.A. American Journal of Diseases of Children, November 1951. (E. L. Reynolds and J. V. Wines)

5. A rectifier tube designed to meet military requirements under extreme temperature changes is filled with xenon gas giving a high efficiency at temperatures between approximately 100° F. below zero and 200° above. (Science News Letter, 10 November 1951)

6. Rear Admiral C. S. Stephenson, MC, USN (Ret.) was honorary guest at a conference on shock syndrome, held by the New York Academy of Sciences, Section of Biology, on 30 November and 1 December 1951.

7. The use of multiple intestinal adsorbents as an adjunct in the management of nausea and vomiting in pregnancy is discussed in the American Journal of Digestive Diseases, November 1951. (V. De. P. Fitzpatrick, R. E. Hunter & C. E. Brambel)

8. The management of acute injuries to the neck appears in "Miscellany," Medical Annals of the District of Columbia, November 1951.

9. An experiment in which 50 presbyopes were provided with trifocal glasses is discussed in A. M. A. Archives of Ophthalmology by P. W. Miles.

10. The value of follow-up studies of children with primary tuberculosis is discussed in American Review of Tuberculosis, November 1951, by E. M. Lincoln.

11. The Foundation of the American Society of Plastic and Reconstructive Surgery held 3 clinical sessions on emergency treatment of burns and traumatic injuries. Twelve papers presented during this symposium appear in Plastic and Reconstructive Surgery, October 1951.

12. A study of the effect of hyaluronidase and triton A-20 on conductive dental anesthesia appears in J. A. D. A., November 1951, B. Tanz, A. A. Jaworski and L. I. Elkins.

13. A study and evaluation of a number of antiseptics used in the preoperative preparation of the patient's skin will be found in Surgery, Gynecology and Obstetrics, November 1951, J. J. Murphy et al.

14. A self-retaining electrocardiographic electrode is described in J. A. M. A., 10 November 1951, by W. Welsh.

15. An evaluation of the use of saccharated iron oxide in deficiency states in obstetrics and gynecology appears in Blood, November 1951, R. G. Holly.

16. The Officer Selection and Evaluation Program of the U. S. Public Health Service is described in American Journal of Public Health, November 1951, by S. H. Newman.

17. The Practical Use of an Isolation Ward in a General Hospital for the Treatment of Tuberculosis is discussed in Diseases of the Chest, November 1951, by R. E. Neff.

18. The National Foundation for Infantile Paralysis announces the availability of a limited number of additional postdoctoral fellowships to candidates whose interests are research and teaching in medicine and the related biological and physical sciences. Complete information concerning qualifications and applications may be obtained from the Foundation, 120 Broadway, New York 5, N. Y. ("Outside the Ivory Tower," Am. J. Surg., Nov. 1951)

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BUMED CIRCULAR LETTER 51-148 19 November 1951

From: Chief, Bureau of Medicine and Surgery
To: All Hospitals and Infirmaries

Subj: Table of Standard Procedures Concerning Medical Services Furnished Supernumeraries

Ref: (a) Art. 21-3, ManMedDept

Encl: (1) 6 copies of subject table

1. Enclosure (1) is a reprint of the Table of Standard Procedures Concerning Medical Services Furnished Supernumeraries from article 21-3, Manual of the Medical Department. These reprints are being furnished to provide a convenient and ready-reference guide for determining eligibility of supernumeraries for admission, required reports, etc.
2. Additional copies are available by request from the Bureau.

H. L. Pugh

The above letter will not be printed in the Navy Department Bulletin.

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JOINT LETTER

BUMED CIRCULAR LETTER 51-149 19 November 1951

From: Chief, Bureau of Medicine and Surgery
Commandant of the Marine Corps
To: All Ships and Stations

Subj: Expenses of preparation and encasement of remains; increase in maximum allowance on

Ref: (a) BUMED-MARCORPS Joint Ltr (BUMED Cir Ltr No. 51-65) of 23 Apr 1951; NDB of 30 Apr 1951, 51-310

1. Reference (a) is canceled. Appropriate corrections have been made in the Manual of the Medical Department and in the Marine Corps Manual.
2. After the above cancelation is made, this letter shall also be considered canceled.

C. J. Brown
Acting

C. B. Cates

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JOINT LETTER

BUMED CIRCULAR LETTER 51-150 19 November 1951

From: Chief, Bureau of Medicine and Surgery
Commandant of the Marine Corps
Chief of Naval Personnel
To: Commandants, Naval Districts; Naval Hospitals; and Marine Corps Activities; (Continental)

Subj: Transfer of patients to Veterans Administration Facilities; cancelation of circular letters concerning

Ref: (a) BUMED-BUPERS Joint Ltr of 27 Jul 1943 (BUMED Cir Ltr No. 43-117)
(b) BUMED-MARCORPS Joint Ltr of 19 Aug 1943 (BUMED Cir Ltr No. 43-136)
(c) BUMED Cir Ltr No. 50-98
(d) BUMED Cir Ltr No. 50-104
(e) BUMED Cir Ltr No. 50-142
(f) BUPERS-BUMED-MARCORPS Joint Ltr of 24 Apr 1951 (BUMED Cir Ltr No. 51-69)
(g) BUMED Cir Ltr No. 51-81
(h) BUMED Cir Ltr No. 51-91

1. References (a) and (b) are canceled.
2. References (c) through (h) (some of which were not addressed to nor needed by all of this letter's addressees) are letters in current use regarding the transfer and reporting of retired and active naval personnel in Veterans Administration facilities.
3. This letter shall be considered canceled after the cancelations of references (a) and (b) are noted.

C. J. Brown C. B. Cates L. T. Dubose
Acting

The above letter will not be printed in the Navy Department Bulletin.

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BUMED CIRCULAR LETTER 51-151 20 November 1951

From: Chief, Bureau of Medicine and Surgery
To: All Dental Officers

Subj: Graduate and postgraduate training for dental officers, U.S. Navy

Ref: (a) BuMed Cir Ltr No. 51-19

1. Reference (a) is hereby canceled and superseded by this letter.
2. The following graduate and postgraduate training is available to officers of the Dental Corps, U. S. Navy:

COURSE	ACTIVITY	DURATION	CONVENES	BILLETS	PREREQUISITE
Dental Intern Training	U.S. Naval Dental School & 7 Teaching Naval Hospitals	12 mos.	July	Varies	Assigned only in same year in which dental degree obtained
General Postgraduate Course	U.S. Naval Dental School	6 mos.	Jan & July	16*	Approximately 5 yrs. active duty including 1 tour of sea or foreign shore duty
Oral Surgery Residency	Teaching Naval Hospitals	12 & 24 mos.	July	Varies	General Postgraduate Course, U.S. Naval Dental School
Prosthodontia Residency	Major Dental Prosthetic Activities	12 & 24 mos.	July	Varies	General Postgraduate Course, U.S. Naval Dental School
Pathology Residency	Armed Forces Institute of Pathology	24 mos.	Sept	1	General Postgraduate Course, U. S. Naval Dental School
Pathology Residency	U.S. Naval Medical School	12 mos.	July	1	General Postgraduate Course, U.S. NDS; Pathology Residency at Armed Forces Institute of Pathology
Specialized Course in Oral Surgery	U.S. Naval Dental School	6 mos.	Jan & July	2*	General Postgraduate Course, U.S. NDS; and Dental Residency training in Oral Surgery
Specialized Course in Prosthodontia	U.S. Naval Dental School	6 mos.	Jan & July	2*	General Postgraduate Course, U.S. NDS and Residency training in Prosthodontia
Short Postgraduate and Refresher Courses	Civilian Schools & Professional Societies	Varies	Varies	Unlimited	None
Dental Materials Research	National Bureau of Standards, Wash.D.C.	12 mos.	Sept	1	General Postgraduate Course, U.S. Naval Dental School
Logistics Course	Naval War College, Newport, R. I.	10 mos.	July	1	Captain or Senior Commander
Industrial College Armed Forces Course	Industrial College Armed Forces, Washington, D. C.	10 mos.	Aug	1	Captain or Senior Commander
Amphibious Warfare School, Senior Course	Marine Corps School, Quantico, Virginia	9 mos.	Sept	1	Captain or Senior Commander
Armed Forces Staff College Course	Armed Forces Staff College, Norfolk, Va.	5 mos.	Feb & Sept	1	Captain or Senior Commander
Radiological Defense, Chemical Warfare & Assoc. Subjects	Chemical Corps School, Army Chemical Center, Edgewood, Md.	2 to 3 wks.	once a month	Varies	None
Radiological Defense, Chemical Warfare & Assoc. Subjects	Naval Damage Control Training Center, Treasure Island, Calif.	2 to 3 wks.	once a month	Varies	None

Requests for assignment to above courses must include a statement of one of the obligations of continued service specified in the dental chapter of the Manual of the Medical Department. * Each class

BUMED CIRCULAR LETTER 51-152 21 November 1951

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Accommodations for In-Patients

Subj: Clinical Records and x-ray films arising from joint hospitalization among the Armed Forces

Ref: (a) BUMED Cir Ltr No. 50-122 (c) BUMED Cir Ltr No. 51-60
(b) BUMED Cir Ltr No. 51-57 (d) Art 23-216, ManMedDept
(e) Art 23-303, items 617 and 629, ManMedDept

1. References (a) and (b) are hereby canceled. References (d) and (e) and this letter contain the necessary instructions concerning the disposition of clinical records and x-ray films arising from joint hospitalization.

2. Transfer from Naval Medical Activity

a. Current, individual jackets or clinical records, including x-ray films, shall accompany patients transferred for further treatment between medical activities of the Armed Forces.

b. When a Navy or Marine Corps patient is transferred from a naval medical activity to an Army or Air Force medical activity for further treatment, the patient's jacket or clinical record and x-ray films shall be sent to the receiving activity. The transfer will ordinarily be made through the Navy Administrative or Liaison Unit where such a unit has been established.

c. When an Army or Air Force patient is discharged to duty from or dies in a naval medical activity the patient's jacket or clinical records shall be transferred in accordance with reference (e) covering disposition of Army or Air Force clinical record and x-rays, arising from joint hospitalization.

d. When a dependent of Army or Air Force personnel is discharged, upon completion of treatment, from a naval medical activity, the individual jacket or clinical record and x-rays shall be forwarded to the Commanding Officer, Kansas City Record Center, 601 Hardesty Avenue, Kansas City 1, Missouri. The clinical record and x-rays on foreign military personnel attached to nearby Army and Air Force installations shall be forwarded to the Office of the Surgeon General, Department of the Army, or the Surgeon General, Department of the Air Force, as appropriate, for transfer to the appropriate foreign military service. This disposition for the Army will ordinarily be through its Administrative or Liaison Unit if such a unit exists. These transfers shall be made 6 months after the discharge of the patient.

e. At the time the records are transferred, the transferring medical activity shall make an entry "CRX" (clinical record x-ray) in the "To where" block on the Admission Record (NAVMED-1285), showing the medical activity to which transferred. A receiving naval medical activity shall enter receipt of these medical records and x-ray films in like manner in the "Other" block of "Records received" on its Admission Record.

3. Transfer from Army or Air Force Medical Activity

a. By agreement with the Army and Air Force, when a Navy or Marine Corps patient is discharged to duty from or dies in an Army or Air Force medical activity, the patient's jacket or clinical record and x-rays will be transferred to the Navy Administrative or Liaison Unit. If such a unit has not been established, the record and x-rays will be transferred to the Naval Records Management Center, Garden City, Long Island, New York.

b. By agreement with the Army and the Air Force, a reciprocal arrangement will be followed in accordance with paragraphs 2a and 2b of this letter.

c. When a dependent of Navy or Marine Corps personnel receives hospitalization in an Army or Air Force medical activity, the disposition of the individual jacket or clinical record and x-rays will be in accordance with the arrangement covering Navy or Marine Corps personnel in paragraphs 3a and 3b of this letter.

d. The clinical record and x-rays of foreign military personnel attached to nearby Navy and Marine Corps installations will be forwarded to the Office of the Surgeon General, Department of the Navy, for transfer to the appropriate foreign military service. This disposition for the Naval Service will ordinarily be through its Administrative or Liaison Unit if such a unit exists.

H. L. Pugh

The above letter will not be printed in the Navy Department Bulletin.

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JOINT LETTER

BUMED CIRCULAR LETTER 51-153 23 November 1951

From: Chief, Bureau of Medicine and Surgery
Chief of Naval Personnel
Commandant of the Marine Corps
To: All Ships and Stations

Subj: Maternity care in military hospitals for female members of the Armed Forces discharged or separated from the service because of pregnancy

Ref: (a) SECNAV ltr of 15 Jun 1945, NDB Cum. Ed. 1948, 45-612, p 20

1. Reference (a) is hereby canceled and superseded.

2. Female members of the Armed Forces separated from active duty are eligible for maternity care during pregnancy and confinement, and for out-patient postnatal care for such period thereafter as the commanding officer or the medical officer may deem necessary at hospitals and other activities of the Navy, Army, or Air Force, when suitable facilities are available, provided it is determined that pregnancy existed at the time of separation from active duty. In making application for maternity care a former enlisted woman shall present a photostat of her discharge certificate. An officer shall present a certified copy of her request for resignation and of her separation orders. A doctor's certification will be accepted in any case where a woman has been separated from active duty under honorable conditions for reasons other than because of pregnancy and it can be reasonably determined that the condition of pregnancy existed at the time of separation.

3. Out-patient prenatal and postnatal care shall be furnished without charge. During any period of in-patient medical (maternity) care provided, charges for subsistence furnished shall be collected locally. At naval hospitals, the charge shall be at the rate of the hospital ration value as promulgated by the Secretary of the Navy. At other naval activities, the charge shall be at the rate prescribed as the value of the general mess ration.

4. In areas where there is more than one military facility providing maternity care, personnel must apply to the medical facility of the service from which they were separated if one is available in that community. Referral to other medical facilities may be made only when bed space is not available in a medical facility of the service from which the individual was separated.

5. The Manual of the Medical Department, the Bureau of Naval Personnel Manual, and the Marine Corps Manual are being revised accordingly. The U.S. Army and Air Force Regulations have already been modified in this respect.

6. A woman assigned to an overseas command, and any child delivered overseas, will be returned to the continental limits or transferred to a more suitable medical facility before and after termination of pregnancy only upon certification by a medical officer that travel will not endanger the health of the individuals concerned. In such cases both persons will be classified as patients and the infant

shall be considered a dependent of military personnel during the period of hospitalization and care by the Navy. The Bureaus anticipate that in these cases commands will report the unusual features to and request special instructions of the Bureau of Medicine and Surgery and of either the Bureau of Naval Personnel or the Headquarters of the Marine Corps as appropriate.

H. L. Pugh L. T. DuBose M.H.Silverthorn
Acting

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